

## LH2 Storage

### Development of a liquid hydrogen storage system for supplying fuel cell systems in aircraft of the future

A large European aircraft manufacturer is placing its hopes in fuel cells for the development of the next aircraft generation.

This is expected to offer the following advantages for civil aviation:

- Reduction in fuel consumption
- Low-emission operation of aircraft during flight and, particularly, on the ground
- Reduction in the purchase and operating costs
- Introduction of new sustained, environmentally friendlier and more cost-effective technology in civil aviation

The Austrian project partner is a leading company in the area of liquid hydrogen storage. As a development partner, it is therefore seeking to undertake the development and verification of a liquid hydrogen system for supplying fuel cells.

The goal of the current project is the definition and development of a suitable lightweight storage system for use in aircraft using fibre bundle technology. The project also envisages the construction of a test sample for the verification of the subsystem function, followed by integration in the overall system. This represents the basis for further development up to the level of a certifiable liquid hydrogen storage system for use in aviation. With this storage system, the functional requirements of the overall system will be tested up to a technology readiness level (TRL) of six and evaluated in accordance with the specifications.

The common goal of the consortium is to expand its technological leadership in this area over the long-term. This will be based on the concept of innovative, complex, electrical aircraft system architectures. In this German-Austrian project, the technology required for future aircraft programmes will be developed. Applications can be expected in future Airbus products. With the responsibility for system integration in the hands of Airbus, all prerequisites for making use of and marketing this new technology in terms of a mass-produced aeronautics product are ensured.

Conceptual design and development of the LH2 storage and distribution systems for future „Green Aircraft“



#### Infobox

##### Project co-ordinator:

MAGNA STEYR Fahrzeugtechnik AG & Co KG (AT)

Space Technology

August Fenz

Puchstraße 85, A-8020 Graz

august.fenz@magnasteyr.com,

www.magnasteyr.com

##### Partners:

AIT – Austrian Institute of Technology (AT)

Airbus Deutschland GmbH (D)